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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

AUG - 9 1994

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

In the Matters of:

Amendment of the Commission's  
Rules to Establish Rules and  
Policies Pertaining to Mobile-  
Satellite Service and Radio  
Determination Satellite Service  
in the 1610-1626.5 MHz and  
2483.5-2500 MHz Bands

DOCKET FILE COPY ORIGINAL

CC Docket No. 92-166

**EX PARTE NOTICE**

Pursuant to Section 1.1206 of the Commission's rules and regulations, Motorola Satellite Communications, Inc. ("Motorola") hereby reports that an ex parte presentation was made by representatives of Motorola on August 8, 1994, to William Kennard, General Counsel of the Commission. The subject matters discussed during this presentation are reflected in the Comments and Reply Comments filed by Motorola in the above-captioned proceeding. Those present also discussed the anticipated timing of a Report and Order in this proceeding and the need for expeditious action. Copies of the materials left at this presentation are attached hereto.

No. of Copies rec'd  
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Copies of this notice are being filed with the Secretary and are being sent to the Office of the General Counsel.

Respectfully submitted,

MOTOROLA SATELLITE  
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Its Attorneys



# Delays Can Kill Iridium.

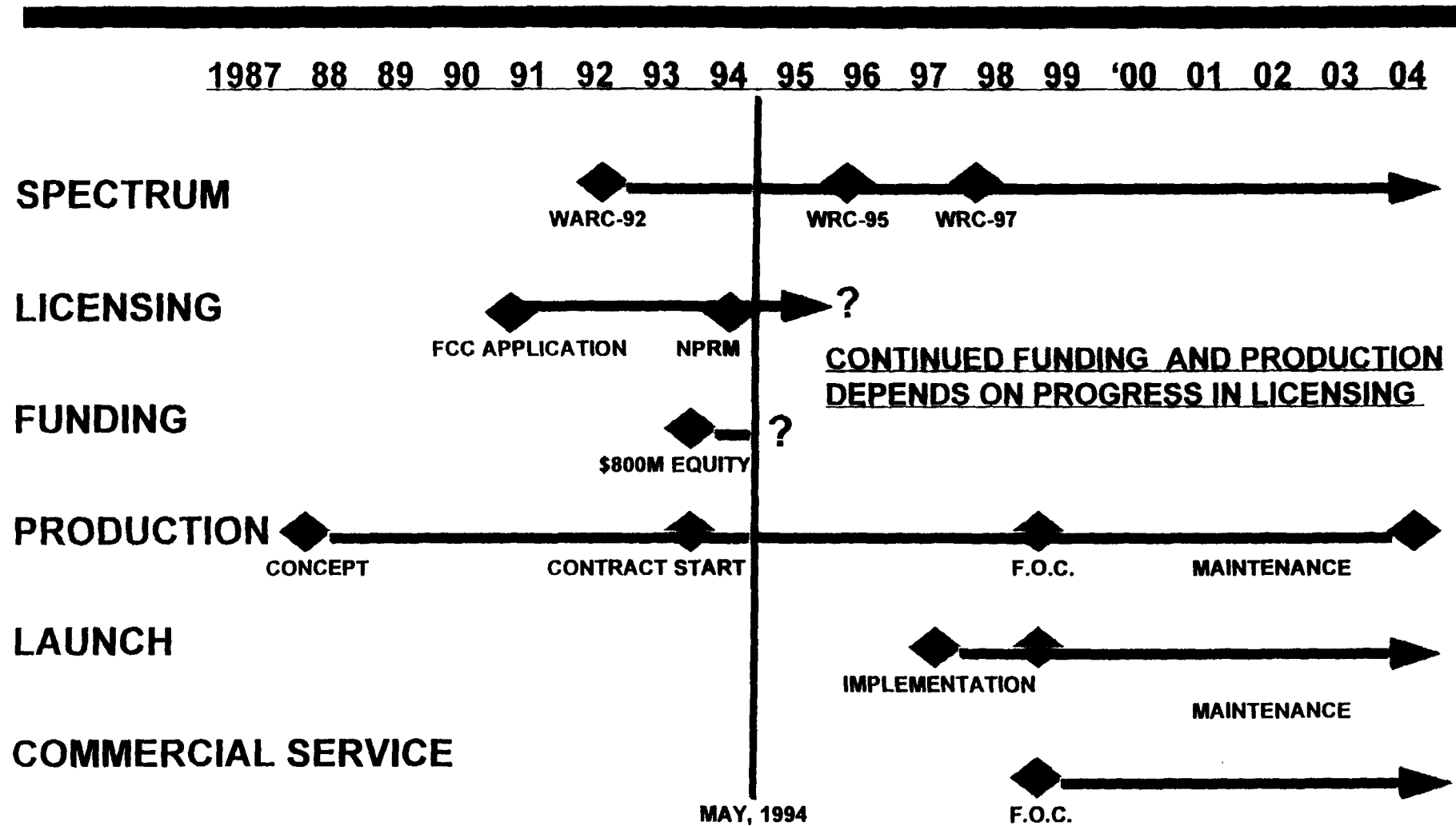
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## The Iridium Program is:

- **Extremely capital intensive**
- **Extremely long-term**
- **Extremely technology intensive**
- **Extremely time sensitive.**



# IRIDIUM PROGRAM TIME LINE





**MOTOROLA**

## **FCC TIME LINE**

<b>Dec. 1990</b>	<b>APPLICATION FILED TO CONSTRUCT, LAUNCH AND OPERATE IRIDIUM SYSTEM</b>
<b>June 1991</b>	<b>OTHER APPLICATIONS FILED</b>
<b>March 1992</b>	<b>INTERNATIONAL ALLOCATION OF GLOBAL MSS SPECTRUM (WARC-92)</b>
<b>Dec. 1992</b>	<b>EXPERIMENTAL LICENSES GRANTED</b>
<b>Nov. 1993</b>	<b>DOMESTIC ALLOCATION OF GLOBAL MSS SPECTRUM</b>
<b>Dec. 1993</b>	<b>SECTION 319(D) WAIVER REQUESTED BY MOTOROLA TO MAINTAIN CONSTRUCTION SCHEDULE</b>
<b>Jan. 1994</b>	<b>LICENSING AND SERVICE RULES PROPOSED BY FCC</b>
<b>July 1994</b>	<b>STAFF DEFERS RULING ON WAIVER REQUESTS</b>
<b>Oct. 15, 1994</b>	<b>REPORT &amp; ORDER ADOPTING BIG LEO RULES</b>
<b>Jan. 1995</b>	<b>LICENSING OF BIG LEOS</b>



**MOTOROLA**

## **NEED FOR EXPEDITIOUS LICENSING**

- **MAINTAIN U.S. LEADERSHIP IN SATELLITE TECHNOLOGY**
- **IMPROVE U.S. BALANCE OF TRADE**
- **CONVERT DEFENSE INDUSTRY TO COMMERCIAL APPLICATIONS**
- **CREATE SUBSTANTIAL NUMBER OF NEW HIGH TECH JOBS**
- **STAY AHEAD OF FOREIGN COMPETITIVE SYSTEMS**
- **ASSIST IN ATTRACTING FINANCING AND GLOBAL PARTNERS**



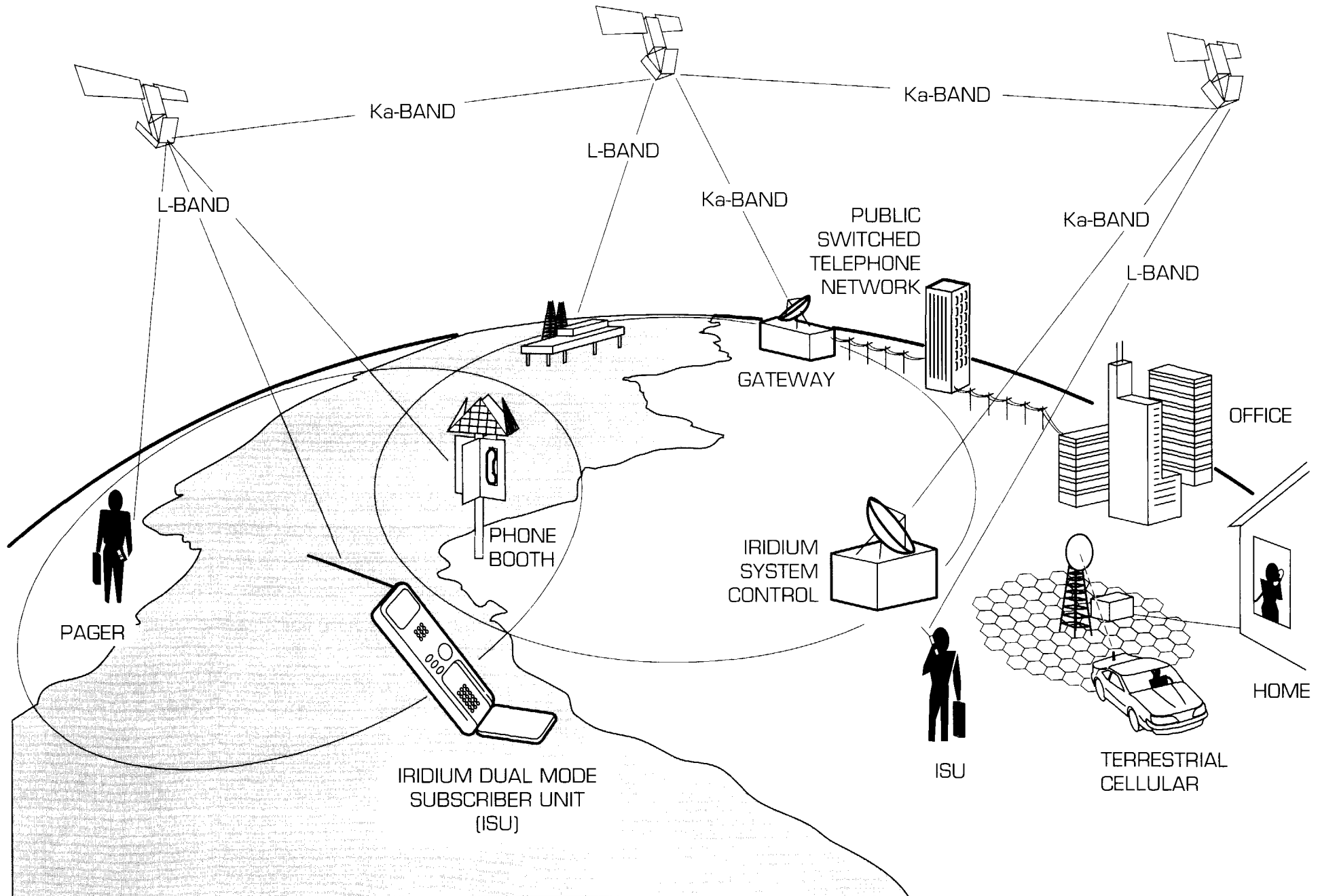
# IRIDIUM JOBS

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- **WHAT'S AT STAKE?**

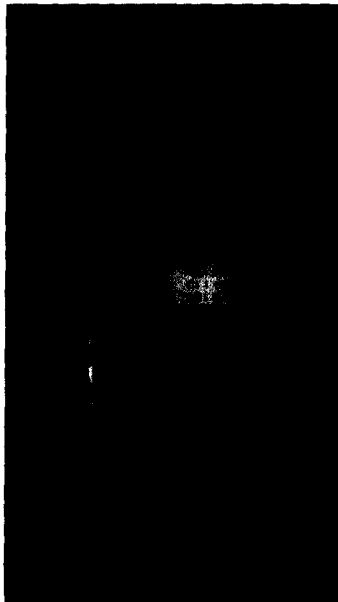
- **6500+ U.S. Aerospace Jobs** on the IRIDIUM Space System
- **3000+ Long Term U.S. Telecommunications Service Jobs**
- **700+ U.S. Subscriber Equipment Manufacturing Jobs.**
- **Estimated 30,000 direct/indirect U.S. jobs** between now and 2002
- **IRIDIUM contribution to U.S. economy \$6.83 Billion by 2002**

# IRIDIUM<sup>®</sup> SYSTEM OVERVIEW



# IRIDIUM®

## BACKGROUND INFORMATION



The IRIDIUM® System is a satellite-based, wireless personal communications network designed to permit any type of telephone transmission — voice, data, fax, paging — to reach its destination anywhere on earth, at any time. It will revolutionize worldwide communications in the commercial, rural and mobile sectors by providing portable, universal service. The system is being financed by a private international consortium of telecommunications and industrial companies, and is expected to become operational in 1998. Motorola is the prime contractor.

Subscribers will use pocket-size, hand-held IRIDIUM Telephones transmitting through digital facilities to communicate with any other telephone in the

world. Unlike conventional telecommunications networks, the satellite-based system will track the location of the telephone handset, providing global transmissions even if the subscriber's location is unknown.

In areas where compatible cellular service is available, the dual-mode phone will provide the option of transmitting a call via the cellular system.

Applications for the system vary widely, including business use for persons who must stay in touch with offices located continents away, service for developing nations without telecommunications infrastructure, communications for rescue and supply efforts during natural disasters, and personal use.

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## THE SYSTEM



The IRIDIUM Network will comprise a constellation of 66 satellites in low earth orbit, about 420 nautical miles above the earth's surface.

Compared to geostationary communication satellites 22,300 nautical miles above the earth, the low orbit of the satellites will allow more tightly focused beams to be projected on the ground, ensuring strong signals and communication quality.

Echo will be minimized due to the satellites' low orbit, and the receiving

antenna can be small enough to be carried on a hand-held subscriber unit.

Small, lightweight satellites (about 1,500 pounds/689 kilograms) will be electronically interconnected to provide continuous worldwide coverage. Communications will be relayed via satellite and through terrestrial gateways, where billing information and user location data will be stored.

Services within various countries will be provided through telecommunications authorities and service providers.

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## HOW THE SYSTEM WORKS



Once an IRIDIUM Telephone is activated, the nearest satellite, in conjunction with the IRIDIUM Network, automatically will determine account validity and the location of the user. The subscriber will select among cellular or satellite transmission alternatives, depending on compatibility and system availability, to dispatch a telephone call. If the subscriber's local cellular system is not available, the telephone will communicate directly with a satellite overhead and transfer the call from satellite to satellite through the network to its destination, either another IRIDIUM Telephone, or an IRIDIUM Ground Station. IRIDIUM System gateways interconnect the satellite network with land-based fixed or wireless infrastructures worldwide.

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## MARKET OPPORTUNITY

The current growth of cellular service and the market outlook for broader personal communications predict a strong demand for IRIDIUM Services. The worldwide market for personal communications

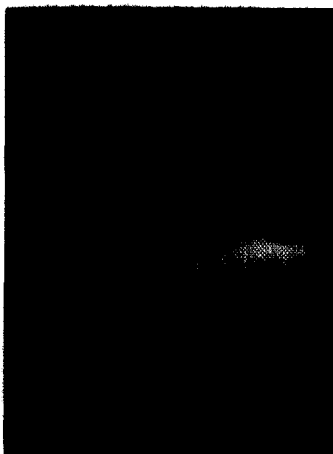
will account for annual revenues of up to \$60 billion by the year 2000, and the number of subscribers could reach 150 million, according to a June, 1993, report by the U.S. International Trade Commission.

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## OPERATIONAL STATUS

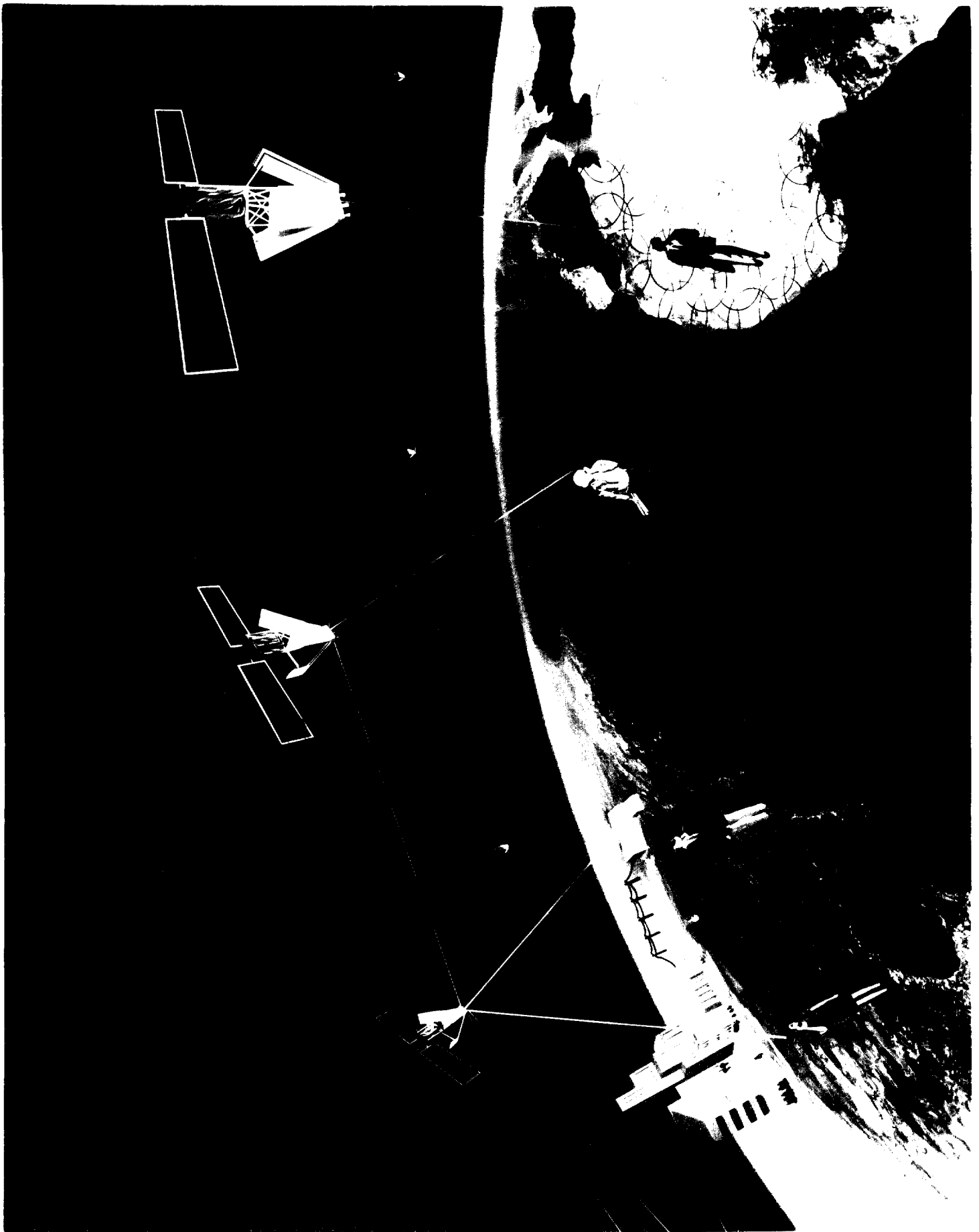
The IRIDIUM Network currently calls for a satellite launch schedule to begin in 1997; with commercial service commencing in 1998.

In 1992, the Federal Communications Commission awarded Motorola an experimental license to construct and launch the first five satellites to demonstrate system feasibility. Iridium, Inc., since has signed a \$3.37 billion contract to purchase the IRIDIUM Space System from Motorola's Satellite Communications Division. Lockheed Corporation will design and construct the satellite bus, which will be shipped to Motorola's facility in Chandler, Arizona, where communications hardware and other components will be integrated.



Among many other Motorola subcontractors, Raytheon Corporation will design the phased array antenna for communication between ground stations and IRIDIUM Telephones. The Canadian firm, COM DEV, will develop hardware for intersatellite conversation. Martin Marietta, Bechtel, Scientific Atlanta, Siemens and Telespazio also will provide key elements of the system.


McDonnell Douglas Corporation will launch the majority of the satellites on its Delta 2 vehicle. Khrunichev Enterprise of the Russian Federation also will provide launch services aboard its Proton vehicles, and China Great Wall Industry Corporation will provide services aboard its Long March IIc vehicles.



**IRIDIUM® :**  
**Personal Communications for the World**

The IRIDIUM® Telephone will connect users to their local cellular telephone system, if available, or to satellites overhead. Those satellites in turn will relay wireless voice, paging, data or facsimile signals around the world to IRIDIUM Telephones or Ground Stations, which will switch calls to land line facilities and interconnect with telephones, computers and fax machines, anywhere in the world.

For information, contact:  
John M. Windolph, Director, Corporate Communications  
(202) 326-5626

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OFFICE

### **IRIDIUM® DUAL-MODE PORTABLE TELEPHONE MODEL**

The hand-held IRIDIUM® Dual-Mode Telephone will allow a subscriber to select among cellular or satellite transmission alternatives, depending on compatibility and system availability, to dispatch a telephone call to anywhere on earth, at any time.

For information, contact:

John M. Windolph, Director, Corporate Communications  
(202) 326-5626

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